A Summary of Inland Cutthroat Trout Conservation Actions Undertaken During Fiscal Year 1999

USDA Forest Service

Prepared by
Inland Cutthroat Trout Conservation Coordinator

In Cooperation with

Forest Service Regions 1, 2, 3, 4, 5, and 6

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The Coordinator wishes to extend his thanks to the many Forest Fishery Biologists that provided information on projects and activities that were implemented as part of the cutthroat trout conservation effort in FY 1999. Thanks also to the Regional Fishery Program who have provided support to the conservation effort within their respective regions. To be truly effective, cutthroat conservation has to be viewed as a group effort with everyone doing their part to make the total effort successful. In addition, the conservation effort must be viewed as a long term commitment of valuable resources. Thanks Again!

Inland Cutthroat Conservation Action Survey
FY 1999

Background

Historically, cutthroat trout conservation efforts within the National Forests were, in large measure, a reflection of independent attention and action based on the status of any particular subspecies conservation program, a forest leadership=s willingness to provide the needed resources (e.g. time and funds), and the individual biologist=s interest in the cutthroat conservation effort. More recently, conservation efforts associated with cutthroat conservation have become a significant component of both State fishery management and Federal land management programs.

Within the Forest Service a more coordinated approach to cutthroat conservation originated with the conservation assessments that were completed in 1995 and 1996 (Young, 1995 and Duff, 1996). Following the completion of the assessments, Gordon Sloane, then Region 2 Fishery Program Leader, led an effort to secure FY 1998 funding ($ 160.0) for Colorado River cutthroat efforts in Regions 1 and 4. At Gordon=s request the Region Fish and Wildlife program directors agreed to fund this coordinated effort. In FY 1999, the Director=s agreed to expand the level of funding ($ 400.0) and they enlarged the effort to include all inland cutthroat subspecies within Regions 1, 2, 3, and 4. A decision was made to utilize a portion of the FY99 funds in support of a Coordinator to assist development and refinement of the conservation efforts. At the encouragement of the Coordinator and with support from the Regional Fishery Program Leaders, the majority (90%) of the $400.0 in FY99 was distributed to fund "on the ground" projects. Funding of the Coordinator in FY99 was linked to strategic actions and represented 10% of the available funds. Funding of cutthroat conservation in FY 1999 also utilized dollars provided from NFIF , NFTE and other EBLI=s as well. In addition, partnership funds were contributed from a diverse array of partners. In FY 2000, the decision of the Directors was to provide an additional $600.0 to continue implementation of the inland cutthroat conservation effort. Regional involvement in the effort was enlarged to include Regions 5 and 6.

The information contained in this summary provides a Asnap shot@ of conservation actions that were completed in FY 1999. This survey does not represent a complete inventory of all actions that were taken in FY 1999. Several forests were unable to respond; other forest=s reported only the most significant actions that were taken during the year. Even though this summary is somewhat incomplete, it does provide a glimpse of amount and nature of conservation actions taken to secure and protect the various cutthroat trout that inhabit habitats on the National Forests of the west.

Survey Methods

The survey of actions taken and projects implemented in FY 1999 was initiated by asking each Regional Fishery Program Leader to query the forests, within their respective region,

relative to the amount of effort expended in cutthroat conservation. To accomplish this a standardized approach was developed which included:. A narrative sheet; and, A standardized spreadsheet. The narratives provided the opportunity to briefly describe and discuss the project or action. These narratives were intended to provide the reader with enough information to be able to evaluate how the project fits into a conservation program. They also highlighted the participation of partners. The spreadsheets were intended to provide information on accomplishment in the form of acres and miles of habitat affected and the nature of project funding.

Results and Discussion

A total of 32 forests, out of a possible 46 forests, provided information contained in this summary. The projects and actions that were reported covered a wide array of activities that included survey efforts to identify cutthroat populations, genetic validation, habitat inventory and quality characterization, aquatic habitat enhancement and restoration, population restoration and expansion, improved land use coordination and monitoring to provide validation of effort effectiveness. A total of 160 projects were reported and it was estimated that approximately 520 acres and 2030 miles of habitat were positively influenced by the actions. The financial investment in all 160 projects and/or activities was estimated at approximately $3,396,000. A breakdown of project financing is as follows:

50 of the 160 projects were funded by a single budget code (e.g. NFIF, NFTE, etc.) or funding source (e.g. Director=s Fund).

110 of the 160 projects were funded by a mix of funding sources and included 17 projects that were funded by combining only internal Forest Service sources and 93 that utilized a mix of Forest Service and non-Forest Service funds.

National Foundations (i.e. National Fish and Wildlife Foundation) provided funding ($38,810) to three (3) of the reported activities.

Director 5% Funds ($244,810) were utilized in 22 of the reported projects and these funds were matched by $ 99,200 of non Forest Service partner funds.

NFIF contributed $ 470,000; NFTE contributed $ 243,400; Other EBLI=s contributed $1,479,174.

Total non-Forest Service partnership contributions were approximately $920,000. The combined narrative and spreadsheet information for all regions and forests is contained in Attachments A and B.

Regional Roundup

Region 1 B The Northern Region This region is represented by12 National Forest administrative units that provide habitat for two subspecies of cutthroat trout (i.e. westslope and Yellowstone cutthroat trout). A total of 66 projects or activities were reported by 5 forests in FY 1999 with 26 acres and 1058 miles of habitat reported as being positively influenced. The financial investment for the 66 actions was estimated at $1,216,590. Nineteen (19) efforts were funding by a single source of Forest Service funding and 47 projects utilized funding from a mix of sources, including approximately $419,000 from 40 non-Forest Service partners. One project was funded ($13,500) by a National Foundation. Director 5% Funds ($39,450) were used in nine (9) projects and these funds were matched by approximately $42,000 in partner contributions. Region 1 also hosted the newly created Coordinator=s position that was funded by the Director=s Funds. A significant amount ($554,570) of funding came from other EBLI=s and these funds were used to fund coordination costs, project associated with road restoration (10% Funds) and other projects that benefited cutthroat trout. Funding from NFIF amounted to $128,210 and NFTE contributed $21,780.

Region 2 B The Rocky Mountain Region This region is represented by eight (8) Forest Administrative Units. These units provide habitat for four (4) subspecies of cutthroat trout (i.e. Yellowstone, Colorado River, Greenback and Rio Grande cutthroat). The Greenback cutthroat trout has been listed under ESA. For FY 1999, a total of 30 projects or activities were reported and 343 acres and 326 miles of habitat were identified as being positively influenced. Total investment in the 30 projects was estimated at $425,550. Of the 30 projects or activities, only 9 were funded by a single funding source. Most (21) were funded by a mix of funding from within the Forest Service or from a combination of sources that included funds ($130,750) from partners outside of the Forest Service. There were no projects that were report to have been funded by National Foundations. Director=s 5% Funds ($51,000) were used to fund 4 projects and these funds were matched by $35,000 in partner contributions. Funding from NFIF amounted to $101,800 and NFTE contributed $92,500. Funding from other EBLI=s was $49,700.

Region 3 B Southwestern Region This region is represented by four (4) National Forests that provide habitat for the Rio Grande cutthroat trout. A total of 21 projects were reported by the four forests in New Mexico. These projects contributed positive benefits to 73 acres and 134 miles of habitat. The total investment for the 21 projects was estimated at $248,056. Most projects (16) were funded by a mix of funding sources including $73,742 in funds partners outside of the Forest Service. There was one project that was funded by a National Foundation ($3340) and five projects that were funded by a single funding source within the Forest Service. Director=s 5% Funds ($50,310) were used to fund 6 projects and these funds were matched by $13,500 in partner contributions. Funding from NFIF amounted to $62,107 with NFTE and other EBLI=s contributing $20.938 and $28,860, respectively.

Region 4 B Intermountain Region This region is represented by 12 administrative units, which provide habitat for six subspecies of cutthroat (i.e. westslope, Yellowstone, Lahontan, Paiute, Bonneville, and Colorado River). The Lahontan and Paiute cutthroat have been listed under ESA. Information contained in this summary represents the input

from seven administrative units. A total of 26 projects or activities were reported which positively influenced 79 acres and 494 miles of cutthroat trout habitat. Total investment for the 26 projects or activities was estimated to be $813,500. One half of the projects received funding from non-Forest Service partners which amounted to approximately $141,120 in contributed funds. Ten projects were funded from a single source of Forest Service funds. There were no projects funded by National Foundation funding. Director=s 5% Funds ($55,000) were used to fund three projects and these funds were matched by $8,750 in partner contributions. A significant amount of funding ($517,414) was received from other EBLI=s and these funds were used to fund coordination costs, project associated with road restoration (10% Funds) and other projects that benefited cutthroat trout. Funding from NFIF amounted to $79,400 and NFTE contributed $20,570.

Region 5 B Pacific Southwest Region This region is represented by seven administrative units that provide habitat for two subspecies of cutthroat trout (i.e. Lahontan and Paiute). Both of these subspecies have been listed under ESA. The information contained in this report includes the input from five administrative units. A total of 8 projects or activities were reported which had a positive influence on an estimated 15 miles of habitat. Total investment for the 8 projects was estimated at $144,000. Most projects (6) involved external Forest Service partners that contributed approximately $67,500. There was one project that received funding ($21,970) from a National Foundation. Region 5 did not receive Director=s Funds in FY 1999. A substantial amount of NFTE funding ($40,183) was directed to cutthroat conservation. Funding from NFIF and other EBLI=s was $4,560 and $9,060, respectively.

Region 6 B Pacific Northwest Region This region is represented by three administrative units that provide habitat for westslope cutthroat trout. These three administrative units reported that 9 projects were implemented in FY 1999. The total financial investment associated with these projects was estimated at $548,227. A significant portion ($319,571) of the total was associated with funding from non-fishery EBLI=s that would benefit westslope. Partnership contributions for four projects amounted to $87,135 . Region 6 did not receive Director=s Funds in FY 1999 and there were no projects funded with National Foundation funds either. Funding from NFIF amounted to $93,884 and NFTE contributed and additional $47,635.

Subspecies Breakdown

Westslope Cutthroat Trout B Westslope habitat is found within the Northern, Intermountain and Pacific Northwest Forest Service Regions. A total of 9, of a potential 19, National Forest units that contain westslope habitat reported projects or activities that benefited westslope cutthroat in FY 1999. In total, 71 projects were identified and 65 acres and 747 miles of habitat were benefited by the effort. It was estimated that approximately $1,500,000 were spent on projects or activities related to or benefiting conservation of westslope cutthroat trout. The largest source of funding ($878,666) came from non-fishery programs within the Forest Service that contributed dollars to cover the cost of land management coordination, road rehabilitation, and other actions beneficial to cutthroat trout. There was one project funded by a National Foundation ($13,500) that

focused on westslope cutthroat. Partnership contributions were estimated at $335,780 and Director Funds assisted in the financing of 3 projects. NFIF and NFTE funds were $222,500 and $80,900, respectively.

Yellowstone Cutthroat Trout B Yellowstone cutthroat habitat is found within the Northern, Intermountain and Rocky Mountain Forest Service Regions. A total of six of the seven National Forests supporting Yellowstone cutthroat habitat reported on implementation of conservation actions that influenced 40 acres and 746 miles of habitat. In total an estimated $557,700 was spent on these efforts. A significant portion of the invested funds came from non Forest Service partners who contributed an estimated $254,400. Director=s Funds ($62,000) assisted in funding 9 projects. Funding from NFIF, NFTE and other EBLI=s was $52,660, $34,250 and $19,500, respectively.

Colorado River Cutthroat Trout B Within the Rocky Mountain and Intermountain Region=s, four of the eight National Forests providing Colorado River cutthroat habitat reported on implementation of conservation actions that positively influenced 150 acres and 98 miles of habitat. A total of $144,625 was invested in 12 project actions that benefited Colorado River cutthroat trout. The majority of funding ($65,925) came via the NFIF budget line item. Partner contributions amounted to $23,500 and funds derived from the Director=s Fund equaled $20,000. NFTE contributed $18,700 and non fishery EBLI=s contributed $16,500 to the cutthroat conservation effort.

Bonneville Cutthroat Trout B All of the National Forests that provide Bonneville cutthroat habitat occur within R4. A total of 5 forests reported implementing 8 projects or activities that had positive benefits or 179 miles of habitat. An estimated total of $577,000 was expended on these 8 projects with the majority of the funds being associated with a road relocation and reconstruction project and funding from non-fishery sources ($452,200). The Director=s Fund financed 3 projects with $24,000. NFIF funding amounted to $38,350 and NFTE contributed $14,850 to the Bonneville conservation effort.

Rio Grande Cutthroat Trout B Rio Grande cutthroat conservation activities were undertaken on all five of the forests that support habitat for this subspecies. Four of these forests are in Region 3 and one is in Region 4. In total 30 projects were implemented and 283 acres and 191 miles of habitat were positively influenced. An estimated $403,000 was expended on the 30 projects. A significant portion of these funds came through the Director=s Fund ($94,860) and from contributions of non Federal partners that contributed approximately $133,450. Nine projects were funded by the Director=s Fund. There was one National Foundation funded ($3,340) project. NFIF funding amounted to $84,607 and NFTE contributed $41,938 to the conservation effort. Funding from non-fishery sources within the Forest Service amounted to $48,860

Greenback Cutthroat Trout B Greenback cutthroat trout are only found within the Rocky Mountain Forest Service Region. Greenback cutthroat are formally listed under ESA. Two forests reported projects that influenced 1 acre and 49 miles of habitat. The total financial investment, associated with the 10 reported projects, was approximately

$55,000. The majority of Greenback cutthroat projects were financed by NFTE funds ($19,700) that were matched by partner contributions that amounted to $14,850. NFIF funding amounted to $14,000 and other EBLI=s contributed $6,500 to Greenback conservation. No projects funded with Director=s Funds were reported.

Lahontan Cutthroat Trout B Lahontan cutthroat trout habitat is found within forests in Region 4 and 5. The Lahontan cutthroat trout is a formally listed subspecies under ESA. The recovery plan that has been developed by FWS includes populations that occur outside of the historic range. Currently there are two forests in Region 4 (Humboldt and Toiyabe NF=s) and seven forests in Region 5 (Eldorado, Inyo, Tahoe, Lake Tahoe Basin Management Unit, Plumas, Sierra and the Stanisiaus NF=s) that have Lahontan cutthroat populations. Five forests reported on projects influencing Lahontan habitat and indicated that 13 miles of habitat were affected. A total of $120,000 were invested in the Lahontan effort. Approximately one half ($59,980) of the total investment came from non-Forest Service partner contributions. NFTE contributed a substantial amount ($29,780) and other non-fishery EBLI=s added about $5,100. NFIF contributed only $3,203.

Paiute Cutthroat Trout B Paiute cutthroat trout occur within one forest in Region 4 and two forests in Region 5. Paiute cutthroat trout are a federally listed ESA subspecies. There were 2 projects reported that favorably influenced 4 miles of habitat. Total invested funds were estimated to be $24,000. NFTE contributed $9.840 to the two efforts and this was matched with $8,040 in non-Forest Service partner funds.
Non-fishery EBLI=s contributed $3,960 and NFIF funds in the amount of $1,920 were also provided.

Summary Conclusions

The information summarized in this report represent a conservative picture of the amount and scope of efforts for inland cutthroat trout within the six western Forest Service regions. Only about 75% of the forest=s that have cutthroat choose to provide information on conservation efforts is FY 1999. It is also reasonable to assume that certain forest=s that did respond, did so without providing information on all projects or activities that were actually completed. The 160 reported actions and the $3,396,000 of financial investment in cutthroat conservation likely represents only 50 to 75% of what was actually accomplished.

The $1,479,000 of non-fishery funds represents a significant investment of other Forest Service program areas in the Natural Resource Agenda and the concept of ecological sustainability regarding conservation of inland cutthroat. Of similar significance was the investment of non-Forest Service partners ($920,000) in the various cutthroat conservation efforts.

It is anticipated that future yearly programs will have a stronger linkage to the various conservation programs (i.e. subspecies recovery plans for the listed subspecies and the subspecies conservation plans for the unlisted subspecies) that are being finalized. As

these plans are completed, the financial requirements will become more focused and the understanding of what in needed will become clearer.

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Attachment A

FY 1999 Cutthroat Conservation Effort Region One

Activity Narratives

Beaverhead B Deerlodge National Forest

Project/Activity Name: Westslope Cutthroat Habitat Protection through Land-Use Coordination Beaverhead-Deerlodge NF. Efforts to protect westslope cutthroat habitat during land use project alternative development, completion of BE's and NEPA analyses. These efforts were completed for a total of 32 projects, including five grazing allotments, three timber sales, two mining projects and a variety of special use projects. Seventeen stream populations were involved in the coordination efforts. The habitat protection measures included those outlined in the Forest Plan, the Conservation Agreement and Plan for Westslope Cutthroat and the Inland Native Fish Strategy. Project was financed by the resource programs that benefitted from westslope cutthroat input. Other species benefitted include bull trout, tailed frogs, and other desired non-native salmonids along with numerous aquatic insects.

Project/Activity Name: Riparian Habitat Improvement Projects Implemented Through Partnerships. The Beaverhead Deerlodge NF, Pintler Ranger District implemented three riparian habitat restoration projects consisting of shrub and deciduous tree planting in already constructed riparian exclosures. Species benefitting from these projects include westslope cutthroat trout, bull trout and tailed frogs. Funding for the project was a combination of NFTE and Sikes Act money. A total of two miles of streamside habitat was directly improved as a result of this project.

Project/Activity Name: Westslope Cutthroat Trout Distribution Surveys on the Beaverhead-Deerlodge NF, Pintler RD. We completed fish distribution and habitat surveys on 15 miles and 29 miles of streams, respectively. This included collecting samples for genetic testing on 10 previously unsampled streams. These surveys were accomplished using NFTE and NFIF money.

Project/Activity Name: **M.F. Little Sheep Creek Stream Rehab.** This was the third and final year of work to rehabilitate this westslope cutthroat trout stream. The money for FY 99 was spent to contract out the construction of eight upstream V weirs. The weirs were designed to build up the streambed on the upstream side and to disipate the stream=s energy away from the weir=s anchor points. The total project over the last three years resulted in the rehabilitation of approximately two miles of stream.

Project/Activity Name: Teepee Creek Headcut Stabilization This project involved the stabilization of two small headcuts that were beginning to erode two meadow tributaries to Teepee creek. Teepee creek contains a population of westslope cutthroat trout. Stabilization was accomplished by embedding logs and rocks at the toe and head of the headcut to disipate the stream=s energy.

Project/Activity Name: French Creek Bank Stabilization This project was located on French creek which contains a population of westslope cutthroat trout. The project was adjacent to the French creek road where the stream had eroded the bank and had threatened the integrity of the road. The road was moved back from the creek, but the creek was still eroding the bank and producing sediment. The project entailed developing 300 feet of flood plain, hardening the waterline interface, pulling back the upper bank above the flood plain to a 45 degree angle, seeding with native grasses and covering the whole area with erosion resistant jute.

Project/Activity Name BRAYS CANYON CREEK Work was directed at defining fish community composition and verifying the genetic status of the population. Genetic status currently is based on small sample size.

Project/Activity Name BEAR CREEK Overwinter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was oHabitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **Cottonwood Creek** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and overwinter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **DELANO CREEK** Population estimates were conducted on several reaches to define population demographics and verify upper extent of distribution. Brook trout competition is a concern, so efforts were directed at defining whether they were outcompeting and beginning to replace WCT higher in the drainage.Additional samples were collected to verify the genetic status of the population. The habitat was inventoried to evaluate whether a barrier on FS ground was feasible and could be successfully installed to protect the cutthroat population from brook trout competition.

Project/Activity Name **DEADMAN CREEK** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **DYCE CREEK** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **FARLIN CREEK** Population estimates were conducted on several reaches to define population demographics and verify upper extent of distribution. Brook trout competition is a concern, so efforts were directed at defining whether they were out competing and beginning to replace WCT higher in the drainage. Additional samples were collected to verify the genetic status of the population. Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted

Project/Activity Name **GREENHORN CREEK** Population estimates were conducted on several reaches to define population demographics and verify upper extent of distribution. Brook trout competition is a concern, so efforts were directed at defining whether they were out competing and

beginning to replace WCT higher in the drainage. Additional samples were collected to verify the genetic status of the population. Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted

Project/Activity Name **HARRISON CANYON** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **MATSINGALE** Habitat conditions and extent of fish distribution were assessed in this stream. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted

Project/Activity Name **MOOSE CREEK** Population estimates were conducted at two locations to define population demographic. Additional samples were collected to define the genetic status of the population.

Project/Activity Name **ROCK CREEK** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **SAWMILL CREEK** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower

reaches but not upper), this was noted. Additional samples were collected to verify the genetic status of the population.

Project/Activity Name **SIMPSON CREEK** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **TENDOY CREEK** Population estimates were conducted on several reaches to define population demographics and verify upper extent of distribution. Additional samples were collected to verify the genetic status of the population. Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **TRAIL CREEK** Population estimates were conducted on several reaches to define population demographics and verify upper extent of distribution. Samples were collected to verify the genetic status of the population. Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted.

Project/Activity Name **BAILEY C**REEK Samples were collected to verify the genetic status of the population.

Project/Activity Name **BUFFALO CREEK** Habitat conditions and extent of fish distribution were assessed. This included a general description of habitat condition; hydrologic characteristics that may be of significance; upper extent of suitable habitat; location of barriers; quality of spawning and over-winter habitat and how it is distributed; and a general description of abundance and fish distribution in the drainage. All surveys attempted to define if all suitable habitat was occupied by fish/ or if certain reaches were fishless. If changes in the fisheries community were observed (i.e. brook trout present in lower reaches but not upper), this was noted. Samples were collected to verify the genetic status of the population.

Project/Activity Name **Westslope Cutthroat Cooperative Biologist** This is a jointly funded position between the Beaverhead-Deerlodge NF and Montana Fish, Wildlife and Parks. Position works specifically on westslope cutthroat conservation. Position assists in the collection of population and habitat information. Position also assists in the identification and development of conservation projects.

Custer National Forest

Project/Activity Name: **Dryhead Creek Population Expansion** This phase of the project involved collection and identification of macroinvertebrates above and below a natural fish passage barrier in Dryhead Creek on the Custer National Forest. The information will be used in developement of Yellowstone Cutthroat trout reintroduction project above the barrier. The project was financed by the 5% Directors Fund and NFIF funds in cooperation with the MDFWP. Funds have been obligated through a CCS agreement.

Project/Activity Name: Dryhead Creek Yellowstone Cutthroat Population Conservation Plan. This project consisted of developement of Yellowstone Cutthroat trout Conservation Plan for the Dryhead Creek drainage. Existing habitat and population conditions were identified along with desired future conditions and management actions necessary to achieve desired future conditions. The project was funded entirely by the 5% Directors Fund.

Project/Activity Name: Bad Canyon Yellowstone Cutthroat Population Enhancement. The project involves the removal of competitive brown trout from the upper most reaches of the stream. Removal efforts have been ongoing with the use of electrofishing. Future removal efforts will involve the use of fish toxicants to complete the removal. Previous efforts included the enhancement of a passage barrier. The project is a joint effort with MFWP and BLM. Funds have been obligated through a CCS agreement.

Project/Activity Name: **Bad Canyon Yellowstone Cutthroat Population Conservation Plan**. Development of a population specific conservation plan was initiated in FY 99. Additional work on the plan will occur in FY2000. The plan is a joint effort with MFWP. The final plan will address viability and population health concerns. Projects inadditon to the brown trout removal will be addressed. Land use influences will also be addresses. Funds have been obligated through a CCS agreement.

Project/Activity Name: **Cutthroat Genetic Analysis**. This project is associated with completion of genetic validation of selected cutthroat (Yellowstone and westslope) populations. This is a coordinated effort with MFWP. Sampling occurs annually

Flathead National Forest

Project/Activity Name B Paola Fish Passage. Remove culvert on FS RD 1638 and install baffles on US HWY. 2 culvert to provide fish passage for WCT. Cooperative project with MDFWP , MDOT, & NFWF.

Project/Activity Name- Big Creek LWD Additions. Add large woody debris with a helicopter to stream channel to trap and store bedload in Big Creek. Restores site (6 miles) previously impacted by old riparian logging.

Project/Activity Name- Forest wide population and habitat monitoring. Redd counts, population estimates and habitat monitoring is a cooperative CCS with MDFWP to monitor bull trout and cutthroat trout populations trends across the Flathead National Forest. In addition to this, the Flathead National Forest collected cutthroat trout population and genetic data on numerous streams and high mountain lakes to use for future fisheries project work and for improved analysis on various land management activities.

Project/Activity Name- Paint Emery Stewardship project. This project was an Ecosystem Analysis at a Watershed Scale that will result in various upland watershed improvements. Cornerstone to this analysis is the plan to restore Emery Creek, an important cutthroat stream, by doing116 miles of road reclamation and removal of 1.5 miles of road that infringes upon Emery Creek-s natural meander pattern.

Project/Activity Name- Good Creek assessment and recovery plan. Following a 1998 Ecosystem Analysis at a Watershed Scale, the headwaters of Good Creek were found to have the last & best cutthroat population in the Stillwater basin and it is critical to protect and expand this population. In 1999, MFWP and Flathead National Forest collected a lot more data on population distribution and genetic data across the Good Creek watershed. The agencies have drafted an aggressive recovery plan that will systemmatically establish barriers to brook trout colonization, remove brook trout and will bolster purestrain cutthroat populations and plan to start implementing in FY2000.

Project/Activity Name- Sylvia Lake boat launch rehabilitation. Sylvia Lake is a small cutthroat and grayling lake with road access. Over the years, unregulated use has eroded a steep shoreline and a plume of sediment extends into the lake at least 25 feet and has degrading fish habitat. The Forest Service re-contoured and stabilized the site while still allowing small, carry down boats to use the lake.

Project/Activity Name- Porcupine and North Fork Lost Creek culvert projects. These two cutthroat streams had permanently closed roads in their headwaters and each road had 1 to 4 culverts in danger of becoming plugged with sediment. If the culverts were to fail, it was estimated 700 tons of sediment would wash into the streams. The troublesome culvert on Porcupine Creek road was removed and the site rehabilitated. Due to public concern, the culverts on North Fork Lost Creek were not removed but cleaned out and stabilized.

Project/Activity Name- Forest wide habitat protection through land use coordination. The Flathead National Forest employs two journey level fisheries biologists who work closely with project developments to protect cutthroat trout habitat across the forest by means of NEPA analysis and Ecosystem Analysis at a Watershed Scale. Efforts included work on four timber sales, one campground capital investment project, three road reclamations, one rock quarry, forest-wide noxious weed

control, three prescribed burns, two removals of old rotten bridges, two hiking trail capital investment projects, two ANILCA access requests, and numerous special use permits for outfitters & guides, water diversions, private access and buried cables. Projects were mostly financed by other resource programs. Numerous other aquatic species benefitted from this coordination, especially bull trout.

Gallatin National Forest

Project/Activity Name: Brackett Creek Yellowstone Cutthroat Habitat Restoration: This project was a cooperative effort between the Forest Service (FS), Gallatin Wildlife Association, and Montana Fish Wildlife and Parks (MFWP). Willow slips were planted along 400 feet of badly eroding streambank of the Middle Fork of Brackett Creek to stabilized outide meander bends and reduce near bank erosion rates. Brackett Creek is a tributary to the Shields River in Southwest Montana which supports Yellowstone cutthroat trout.

Project/Activity Name: North Fork Willow Creek Riparian Restoration and Protection Project: This ongoing project was a cooperative effort between the FS, MFWP, and the RF Bar Ranch to increase stream bank stability and to protect sensitive riparian areas from effects due to cattle grazing. One half mile of electric fence construction and extensive streamside willow planting were the primary treatments. North Fork Willow Creek is a tributary to the Shields River in Southwest Montana, which supports Yellowstone cutthroat trout.

Project/Activity Name: Cache Creek Westslope Cutthroat Trout Population and Habitat Protection Project: This project was a cooperative effort between the FS, Montana Trout Foundation, MFWP, Interfluve Inc., and Baker Creek Ranch. The Cache Creek project consisted of two parts; fish passage barrier construction in the lower portion of the drainage to protect this cutthroat trout population from further hybridization with rainbow trout and stream channel restoration efforts which will greatly reduce accelerated sediment delivery, increase stream bank stability, and improve fish habitat quality and quantity. Barrier construction included excavation to bedrock and hand placement of approximately 8 cubic yards of small boulder and cobble sized material into gabion baskets in a very confined portion of lower Cache Creek. The gabion baskets were cabled into large boulders and reinforced on the ends to prevent lateral channel migration. Stream bank reshaping and bioengineering techniques were applied to about 1200 feet of Cache Creek that had been subject to channel downcutting, lowered water tables, alteration of riparian vegetation, and altered stream channel types. The restoration techniques used in this project were designed to replicate natural processes of steam channel evolution and development, so as

to have both a natural function and appearance when finished. Pretreatment monitoring of stream channel crosses sectional profiles, fish habitat characteristics, and fish population estimates were also completed as part of this project and will be monitored over time. Cache Creek is an upper tributary to the Gallatin River in southwest Montana.

Project/Activity Name: Cabin Creek Westslope Cutthroat Trout Population Distribution and Barrier Feasibility Survey: This project was a cooperative effort between the FS and MFWP to better determine the distribution of a genetically pure and a hybridized population of westslope cutthroat trout in Cabin Creek. This survey was also conducted to determine the effectiveness of a natural geologic barrier to upstream fish passage by hybridizing species and to determine the feasibility of fish passage barrier construction lower in the drainage. Cabin Creek is a tributary to the Madison River in Southwest Montana.

Project/Activity Name: West Fork Mill Creek Habitat Enhancement: This project involved the construction of 40 pool habitat structures made of boulders and logs throughout a 4-mile reach of the West Fork of Mill Creek, a tributary to the Yellowstone River in Park County, Montana. The Mill Creek drainage supports a genetically pure population of Yellowstone cutthroat trout. The project was financed by NFIF funds. Partnership dollars (approximately 6K) from the One Fly Open funds are still awaiting.

Project/Activity Name: Westslope and Yellowstone Cutthroat Habitat Protection through Land-Use Coordination Gallatin NF: Efforts to protect Yellowstone cutthroat habitat during land use project alternative development, completion of BE's and NEPA analyses. These efforts were completed for four grazing allotments, six timber sales, two land exchange and two mining projects. Ten stream populations were involved in the coordination efforts. The habitat protection measures included those outlined in the Forest Plan, the Conservation Agreement and Plan for Westslope and Yellowstone cutthroat trout, and other legislation governing BSL timber sales. The resource programs that benefited from these analyses financed the projects.

Project/Activity Name: Mill Fork Mission Creek Bank Stabilization Project: This project involved planting willows along 200 feet of eroding stream bank in Mill Fork Mission Creek to stabilize banks, reduce erosion and increase cover for the genetically pure Yellowstone cutthroat trout population that inhabits the stream. The project was funded by NFIF dollars.

Project/Activity Name: Mill Creek and North fork Willow Creek Yellowstone Cutthroat Conservation Plans: These projects focused on development of a Yellowstone cutthroat trout conservation plan for the Mill Creek and North fork Willow Creek drainages. The document outlines existing habitat and population conditions, identifies limiting factors, and identifies desired future habitat conditions, population goals, and management activities necessary for habitat restoration and population protection. These plans are currently being reviewed by the Montana Department of Fish Wildlife and Parks. Theses project was funded by NFIF and MDFW funds.

Project/Activity Name: Stream temperature monitoring: This project included deploying eight stream temperature thermographs in streams with Yellowstone cutthroat populations. The data will be used in development in of individual YCT conservation plans and for future land management planning efforts. The project was funded by NFIF dollars.

Project/Activity Name: Assistance and Coordination with the Upper Shields River Watershed Working Group: This effort included working with the Upper Shields River Watershed Working Group to coordinate, develop and prioritize stream restoration activities for tributaries throughout the Upper Shields drainage. The working group consists of over 40 ranchers in the area. It is a cooperative effort between the working group, the DNRC, the MDFWP and other state agencies. FY1999

accomplishments include; on-site physical features inventories/evaluations of selected priority reaches, an aerial assessment of 5 additional watersheds and streams, collection of YCT population data and accompanying status assessment, collection of stream temperature thermograph data, implementation of two bank stabilization demonstration projects, installation of two off-stream livestock watering systems to protect 8 miles of riparian corridors, an initial review of irrigation conveyance losses, and numerous educational presentations. The USFS contribution included providing 15 days of a fishery biologist time to coordinate and plan the aforementioned actions. Funding to implement the projects was from various state and federal grants exterior to the Forest Service.

Project/Activity Name: **Cutthroat Genetic Analysis**. Project is associated with genetic analysis of selected cutthroat populations. The is a cooperative effort with MFWP and it is covered under CCS agreement.

Kootenai National Forest

Project/Activity Stahl Creek Channel Restoration. This project reconstructed the creek channel to prevent bank erosion and failure. This project reduced sediment delivery to the creek and enhanced the quality of downstream fish habitat. Several rock weirs were installed to maintain channel stability and increase the availability of pool habitat for fish. Project design included mitigation measures to protect native WSCT and bull trout. No official partnership agreement was developed, although local personnel from MFWP provided assistance.

Project/Activity Name Otter Creek Channel Restoration. This project focused removed a ford crossing which had severely altered stream flows. The channel was reconstructed, rock weirs were placed to maintain channel stability, and fish habitat quality was improved within the project area. Project design included mitigation measures to protect native WSCT and bull trout. No official partnership agreement was developed, although local personnel from MFWP provided assistance.

Project/Activity Name Swamp PA Road Improvement Work. This project was tied to the Swamp Planning Unit EIS. The planning area assessment identified a number of roads that contributed sediment to live channels. Improvement work, which included culvert replacement, water bars, drain dips, and ditch armoring, were completed to reduce sediment delivery to channels. Fish habitat was enhanced through the reduction of sediment delivery to channels.

Project/Activity Name Trego PA Road Improvement Work. The Trego Planning Unit EA identified this project. The planning area assessment identified a number of roads that contributed sediment to live channels. Improvement work, which included culvert replacement, water bars, drain dips, and ditch armoring, were completed to reduce sediment delivery to channels. Fish habitat was enhanced through the reduction of sediment delivery to channels.

Project/Activity Name Barron Creek Enhancement Log Placement was conducted to improve habitat conditions in Barron Creek. Approximately 500 feet of stream channel was realigned in conjunction with bridge reconstruction. This eliminated existing and future sediment problems associated with a past bridge failure and improper bridge alignment. The district designed the realignment with the equipment paid for by Plum Creek Timber Company.

Project/Activity Name Electrofishing Surveys Electrofishing was conducted on 39 streams on the district to determine cutthroat trout distribution. Abundance surveys of 1000 foot reaches using 2 and/or 3 passes were conducted on 7 streams. Genetics samples were collected on 20 streams with clips from 13 streams sent in for genetic testing.

Project/Activity Name Road Restoration w/ Benefits to Cutthroat Approximately 15.8 miles of road was decommissioned. All culverts were pulled, crossings redone, and roadbeds re-sloped where needed. The roads were made hydrologically neutral

Project/Activity Name Application of BMP=s Beneficial to Cutthroat Best Management Practices Roadwork were implemented on 61.5 miles. This work included replacing and adding culverts, surface drainage structures, road and ditch blading, etc. Roadwork was conducted in conjunction with timber sale activity as required mitigation in most cases. Work was conducted in the Flower Creek drainage. Costs were split 50/50 between USFS and Plum Creek timber Company. Additional work conducted in conjunction with Plum Creek included replacing 2 culverts in the Wolf Creek drainage.

Project/Activity Name Pipe Creek Survey Rosgen channel typing, Fisheries habitat condition surveys (Riparian Management Objectives) were conducted on 1 mile of Pipe Creek.

Project/Activity Name Dodge Creek Genetic Analysis: Retested the WCT population in Dodge Creek to test for introgression by coastal rainbow and/or Yellowstone cutthroat trout.

Project/Activity Name **Berray Creek Restoration**. Approximately 1800 ft of stream channel was reconstructed and/or repaired in the summer of 1999 to stabilize banks and beds. The channel had been damaged by the previous landowner who logged the riparian area then filled and diverted the stream. Rosgen techniques were employed to rehabilitate the banks and bed to increase habitat quality and quantity for westslope cutthroat trout. An active sediment source to the Bull River (a priority bull trout watershed) was also removed. The primary funding source was NFSI, though NFIF and NFWL were used as well.

Project/Activity Name Cedar Gulch Road Obliteration. Approximately 2.25 miles of existing road was obliterated as part of the Cedar Gulch Timber Sale. These roads were obliterated by the purchaser under the TS contract following completion of logging activities. This action reduces overall road densities in Cedar Gulch, a tributary to Rock Creek, which is a priority bull trout watershed.

Project/Activity Name **Marten Creek Surface Repair**. Approximately $1500 of 10% fund money was spent on spot surface repair and compaction of the Marten Creek road to maintain road surface integrity and minimize the potential for sediment delivery to Marten Creek, a bull trout watershed.

Project/Activity Name **Beaver Creek Road Decommissioning**. Approximately 10 miles of existing road was surveyed and decommissioned in the Beaver Creek drainage. Some roads were surveyed and, if stable and well vegetated with no chance of failure (i.e. high elevation, rocky sites with no chance of sediment delivery), they were counted. Others had drainage structures installed and closures constructed (berms, etc.). These roads were generally older roads that were causing minimal impacts, but the identification of their status and installation of surface drainage where necessary to ensure long term stability were beneficial.

FY 1999 Cutthroat Conservation Effort Region Two

Activity Narratives

Bighorn National Forest

Project/Activity Name: **Yellowstone Cutthroat Trout and Fisheries Inventory of the Little Bighorn River Drainage, Bighorn National Forest, Wyoming.** The primary objective of this project is to survey streams and identify any populations of genetically pure Yellowstone cutthroat, *Oncorhynchus clarki bouvieri*, in the Little Bighorn River Drainage (LBHR). Electrofishing depletions and stream habitat measurements were conducted on 1500-m intervals for the entire stream length of all tributaries to the LBHR. Each transect is 100m long and 16 hydrologic and fish habitat parameters were measured. Over 72 miles of streams were inventoried during the 1999 field season and three populations of cutthroat trout of unknown origin and genetic purity were more fully described. The Fish Genetics Lab at Brigham Young University is currently processing genetic samples for these three populations. Funding for this project was provided by the U.S. Forest Service Fish Habitat Relationships (FHR) program, Wyoming Game and Fish, The Little Bighorn Chapter of Trout Unlimited and the University of Wyoming Department of Renewable Resources.

Grand Mesa, Uncompahgre, and Gunnison National Forest

Project/Activity Name: ***FY1999 CRCT Inventories***: Thirty two streams on the Grand Mesa, Uncompahgre and Gunnison National Forests were surveyed between July and September, 1999. Eleven streams were found to have CRCT populations. Seven of these appeared to be pure populations and four appeared to have some degree of hybridization. Thirteen streams contained populations of brook trout and eight streams had no fish present. Depending on the estimated size of the stream=s population, either whole fish or caudal fin clippings were taken. One stream was identified as a potential reintroductin site. Samples from nine populations were sent to Dr. Rob Leary, University of Montana, and/or Dr. Dennis Shiozawa, Brigham Young University. Genetic analysis results for these populations are expected back by March, 2000. When there was sufficient time, Proper Functioning Condition (PFC) Standard Lotic Checklists for Flowing Water were taken to get information on stream and upland habitat condition.

Medicine Bow B Routt National Forest

Project/Activity Name: Reference Reach Data for CRCT Streams. This information was gathered on streams that the fisheries biologist and the hydrologist determined to be good condition based on amount of past disturbance, geology and stream type. The data would then be used for comparison purposes with other streams on the forest. Data collected was based on Rosgen (1996) methodology, which included channel cross-section measurements, longitudinal profile, pattern geometry, pebble counts, macroinvertebrates and fish biomass.

Project/Activity Name: Troublesome Creek CRCT Survey. Colorado River cutthroat trout were originally in this drainage. The information pertaining to this population was greater than 15 years old. We surveyed this drainage in conjunction with the Allotment Management Plan revision. We found that two streams out five no longer contained Colorado River cutthroat trout. In the other three streams the ratio of brook trout to cutthroat ranged from 6 to 1 up to 20 to 1. Based on these results, it appears that Colorado River cutthroat are no longer viable in the Troublesome Creek drainage.

San Juan B Rio Grande National Forest

Project/Activity Name: Rio Grande Cutthroat Trout Population Status Assessment. Project entailed collecting current population estimates using Colorado Division of Wildlife protocols. Coarse evaluation of current habitat condition at sites was also conducted. This status assessment was a joint effort between the Rio Grande National Forest and the Colorado Division of Wildlife, and is an on-going project This information will be used to update the Rio Grande Cutthroat Trout Management Plan, and eventually for the development of a Conservation Assessment/Strategy for Rio Grande Cutthroat trout in Colorado. State of Colorado provided 85% of funds; RGNF 15%.

Project/Activity Name: Reconnaissance for Potential Reintroduction Waters for Rio Grande Cutthroat Trout. Project entailed initial assessments of potential waters for their suitability for Rio Grande cutthroat trout reintroduction. Natural barriers or potential for human-made barriers was assessed as well as habitat suitability, feasibility of reclamation, etc. This is an on-going project, done in coordination with the Colorado Division of Wildlife.

Project/Activity Name: Rio Grande Cutthroat Trout Habitat Protection through Land-Use Coordination. Efforts to protect Rio Grande cutthroat habitat during land-use project alternative development, completion of BE's and NEPA analyses. These efforts were completed for 1 Ski Area Expansion, 3 timber sales, and 4 grazing allotments. Twelve stream populations and 1 lake population were involved in these coordination efforts. Project was financed by the resource programs proposing the projects. Other aquatic/riparian species also benefitted.

Project/Activity Name: Division III Water Rights Negotiation work (for protection of Rio Grande Cutthroat Trout occupied and potential habitat). Analysis and development of decree for Reserved Instream Flow Water Rights. If this negotiated effort is successful, the Rio Grande National Forest will obtain substantial Instream Flow Rights (roughly protecting 90% of flows) on every stream on the Forest. This level of protection is unprecedented, and will exist in perpetuity. Project was financed 50% by NFIF funds, 50% by NFSO funds.

Project/Activity Name: Big Springs Creek Restoration Project. The objectives for this multi-year project include 1). re-establishing the native fish community (Rio Grande cutthroat trout, Rio Grande sucker, and Rio Grande chub) at Big Springs Creek through barrier construction and reclamation, and 2.) monitoring population status and collecting habitat data to better determine habitat requirements and increase our ability to select successful transplant sites in the future. In FY99, NEPA was completed, the barrier was constructed, and habitat data was collected. Reclamation is slated for FY00. An interpretative display will also be developed in FY00. This is a joint project sponsored by the Rio Grande National Forest and the Colorado Division of Wildlife. RGNF funded NEPA, barrier construction, and will fund development and construction of interpretative display. CDOW will fund reclamation and native fish stocking. FS funds were a combination of Chief's NRA Grant and NFIF dollars.

Project/Activity Name: North Fork Carnero Creek Fish Barrier. This multi-year project will result in construction of a barrier to protect an historic population of Rio Grande cutthroat trout and a transplanted population of Rio Grande sucker. Although non-natives are found in the drainage below this stream, it appears none have yet contaminated this population. Work in FY99 included initiation of NEPA, but difficulty in finding an appropriate barrier site precluded completion of the project. FY99 funding for construction of the barrier came from Inland Cutthroat dollars, which was obligated in FY99. Completion of NEPA (using FY00 NFTE funds) and barrier construction is expected in FY00.

Project/Activity Name: **East Pass Creek Erosion Control Project**. This multi-year project aims to reduce highway related erosion and sedimentation of East Pass Creek, which maintains an historic population of Rio Grande cutthroat trout. The project includes both short- and long- term solutions to the problem. In the short-term, slash sediment control structures were installed to trap sediment; in the long-term, both Colorado Department of Transportation and the RGNF are working to prevent erosion by re-routing highway flows, adding additional drainage structures, and reclamation of gullies. Project partners include CDOT (50% of estimated total cost), RGNF (NFIF, NFSI, and Chief's NRA Grant dollars covering about 45% of costs), and Trout Unlimited (volunteer time valued at about 5% of costs).

Project/Activity Name: **Osier and Cascade Erosion Control Project**. Another multi-year project that entails construction and maintenance of rock sediment control structures in the headwaters of Osier and Cascade Creeks, both historic Rio Grande Cutthroat trout streams, recently stocked with Rio Grande sucker. Erosion control structures have been coupled with changes in livestock management to encourage restoration of this historically overgrazed, fire-impacted area. This project is funded with NFIF dollars, and benefits substantially from the volunteer labor of Trout Unlimited.

Project/Activity Name: Educational Program/Slide Show. Development of a slide show discussing native fish of the upper Rio Grande, including history, threats, challenges, and recovery efforts. Presentations given at local schools, museums, and fairs/festivals (i.e., Crane Festival, National Fishing Week activities, etc.). Project was funded with NFIF dollars.

Arapaho and Roosevelt National Forest

Project/Activity Name: GREENBACK CUTTHROAT TROUT STATUS AND TREND. Finalize field work for two year detailed study of habitat and population status of greenback cutthroat trout. Data is used to support NFMA/Forest Plan viability analysis, project assessment, provide baseline for recent habitat improvements, support planning for upcoming habitat improvement, and other recovery efforts relative to potential delisting of this sub-species. Basin-wide inventory methods for both habitat and populatins were used. Final report in preparation describing status and trend of all South Platte River drainage greenback (10 streams, over 25 miles of habitat; complete in FY2000). Partners included Colorado Division of Wildlife, Colorado State University, and Rocky Mountain Research Station.

Project/Activity Name: COLORADO RIVER CUTTHROAT TROUT STATUS AND TREND. Complete first season field work for three year detailed study of habitat and population status of Colorado River cutthroat trout. Same design as greenback study above. Data is used to support NFMA/Forest Plan viability analysis, project assessment, support upcoming habitat improvement, and other conservation efforts relative to petition for listing this sub-species. Basin-wide inventory methods for both habitat and populatins were used. Final report planned for FY2002. Current data describes status and trend of upper Colorado River drainage streams totalling over 25 miles (habitat) and approximately 5 miles (populations). Partners included Colorado Division of Wildlife, Trout Unlimited, National Fish and Wildlife Foundation (potential), Colorado State University, Winter Park Resort, key area water users, and Rocky Mountain Research Station.

Project/Activity Name: LITTLE VASQUEZ CREEK COLORADO RIVER CUTTHROAT TROUT FISH PASSAGE IMPROVEMENTS. Install removable metal fish ladders in two culverts at Winter Park Resort. Collaborative studies identified that culverts were two long and steep to allow passage by spawning Colorado River cutthroat trout during spring runoff. Partnership between Winter Park Resort and Forest Service supplied funds, materials, and labor to fabricate and install these ladders, which provide access to over one mile of excellent habitat. Denver Water Board, Grand County Water and Sanitation District and other water users were involved in funding of collaborative studies.

Project/Activity Name: SOUTH FORK RANCH CREEK COLORADO RIVER CUTTHROAT TROUT PRELIMINARY RECONNAISSANCE. Conduct basin-wide habitat and population inventories (above) and preliminary reconnaissance to identify limiting factors and conditions in this Colorado River cutthroat trout stream. Forest Service was partner with Colorado Division of Wildlife, Trout Unlimited, and several other miscellaneous contributors. Funds have been allocated in FY2000 to address dam stability, culvert passage, and road impact issues identified in FY1999. Significant

partnerships with Colorado Division of Wildlife, Trout Unlimited and National Fish and Wildlife Foundation (potential) are involved in upcoming habitat enhancement work.

Pike and San Isabel National Forest

Project/Activity Name **GREENBACK CUTTHROAT TROUT Population Recovery - Lake Fork Creek Barrier Repair.** This project involved temporary repairs to a six foot high wooden barrier on Lake Fork Creek. This barrier, constructed in 1988, was severely damaged during the spring 1999 runoff, and complete structural failure was immenent. The watershed above the barrier was reclaimed for greenback cutthroat trout in 1998, and stocking is on hold until a permanent concrete structure can be installed in CY2000. If the existing barrier fails before the new concrete structure is installed, the watershed will have to be reclaimed again, at considerable cost to the government. The repair work was performed by Forest Service and Colorado Division of Wildlife (CDOW) personnel, and included stabilizing the existing structure and adding three additional 6x8 timber braces. In addition to this work, preliminary design, site inspection, and botanical surveys were done by the Forest Sevice in preparation for contruction of the new barrier.

Project/Activity Name **GREENBACK CUTTHROAT TROUT Population Maintainance B Severy Creek Brook trout Removal** This cooperative project with the Colorado Division of Wildlife involved removing Brook trout from Severy Creek between the first and second barrieres in the occupied reach. The occupied reach on Severy Creek contains three distinct bedrock fall barriers. The downstream barrier is approximately 50 feet high, and represents a formidible obsticle to upstream migration of salmonids. The next barrier, approximately 3 mile upstream, is only approximately 15 feet high, and has slightly less gradient. The upstream barrier, approximately : miles upstream from the first barrier, is the upstream limit of fish in Severy Creek. The reach between the first and second barriers is currently occupied by a mix of Greenback Cutthroat trout and Brook trout. Upstream of the second barrier, the stream is exclusively occupied by greenback cutthroat trout. In FY 1999, Forest Service and Colorado Division of Wildlife personnel removed brook trout from this reach using a backpack electrofisher. Brook trout were transported downstream and restocked into the stream below the first barrier. This effort will be repeated in CY2000.

Project/Activity Name GREENBACK CUTTHROAT TROUT Population Maintainance B Severy Creek Expansion of Range. This cooperative project with the Colorado Division of Wildlife involved removing several fish from the occupied reach along Severy Creek and transporting them 2 mile upstream, past the upper bedrock falls barrier, and reestablishing them in a high quality, but fishless area of the stream. Removal was performed by CDOW biologists using a backpack electro-fisher. The fish were placed in oxygen-fed coolers, and transported upstream using the Forest Service=s Region 2 Packstring. This project will probably be repeated again in CY2000.

Project/Activity Name GREENBACK CUTTHROAT TROUT Population Maintainance B Severy Creek Habitat Inventory. Physical habitat surveys were conducted along the first two miles of Severy Creek in order to quantify habitat conditions and determine limiting factors to the greenback cutthroat trout population in the creek. The Pike & San Isabel National Forests= basinwide stream habitat protocol, a modified version of the Hankin & Reeves methodology, was used for these surveys. This information is being used to determine potential cumulative effects to habitat due to natural and man-induced influences, as well as to locate suitable areas outside of the occupied reach in which to expand the range of the Greenback cutthroat within this watershed.

Project/Activity Name GREENBACK CUTTHROAT TROUT Population Maintainance B Severy Creek System Trail #661 Closure This work involved implementing a request from the Colorado Division of Wildlife Southeast Aquatics Group to temporarily close Severy Creek to public access to protect the greenback cutthroat trout population from disease. A very popular hiking trail, FS trail #661, is located immediately adjacent to the stream. The trail crosses the stream several times, particularly along the : mile reach occupied by the greenback cutthroat trout. In 1999, the Colorado Division of Wildlife identified Fountain Creek, immediately downstream of Severy Creek, as severely infected by Whirling Disease. Additionally, the publication of a revised hiking guide to the Pikes Peak region featuring the Severy Creek trail as a recommended outing, caused use of the trail to increase significantly. Concerns about illegal fishing and possible contamination of the stream by Whirling Disease led the CDOW to request the Forest Service to close the trail. The closure order was signed by the Forest Supervisor in November 1999, and gates and informational signs were posted at the trailhead at that time.

Project/Activity Name GREENBACK CUTTHROAT TROUT Population Maintainance B Severy Creek Habitat Protection / Land Use Coordination B Pikes Peak EA and Master Plan This work involved coordinating with District and Forest level planners, as well as consultation with the USFWS and the Colorado Division of Wildlife, in the drafting of the Pikes Peak Highway Master Plan and associated Environmental Assessment.

Project/Activity Name **GREENBACK CUTTHROAT TROUT Population Recovery B Turkey Creek Greenback Cutthroat Trout Reclaimation Project**
Preliminary project preparation work was performed by Forest Service fisheries personnel and this multi-agency 7th level watershed scale rotenone / reclaimation project. The project, involving resources from the BLM, Forest Service, US Fish & Wildlife Service and Colorado Division of Wildlife, was originally scheduled for implementation in August 1999, but was postponed until Summer 2000 due to unusually wet weather and high flows.

Project/Activity Name **GREENBACK CUTTHROAT TROUT Population Maintainance B Greenhorn Creek Residual Pool Depth Monitoring** This is a continuing monitoring project to measure sediment movement and deposition from a damaged wetland upstream of this greenback cutthroat recovery site. Changes in residual pool depths are being monitored using the V* protocol. Cross-sections have been established at eight pools downstream of the damaged wetland and at two pools along an unaffected tributary. Work performed in FY1999 included technicians resurveying each of the pools. No effects from additional sediment were observed in this, the second year of this long-term monitoring effort.

Project/Activity Name **GREENBACK CUTTHROAT TROUT Population Maintainance B Greenhorn Creek Riparian Wetland Restoration** This project is an ongoing effort to repair damage done during an unsupervised green-sheet salvage sale to a critical wetland area in the headwaters of this greenback cutthroat trout recovery stream. Work this year included stabilizing the stream channel along the skid trail crossing and crosscutting drainage ditches through the ruts created by logging trucks and skidders crossing the saturated area. No NFTE dollars were spent to fund this restoration work, and we expect that further work will need to be done in 2000.

Shoshone National Forest

Project/Activity Name **Highway Mitigation Input** The Shoshone National Forest was actively involved in providing fisheries mitigation input and guidance for Phase II of the North Fork Shoshone River Highway reconstruction project. Every effort was made to avoid the river wherever possible. Highway realignment did encroach on the river along various reaches of stream impacting fisheries habitat. Cooperative efforts with the Wyoming Highway Department (WYDOT), Wyoming Game and Fish Department and the Forest resulted in WYDOT funding installation of random instream rock clusters in various river reaches. This improved about 1 mile of fish habitat on the North Fork Shoshone River which is used by various fish species including Yellowstone cutthroat trout.

White River National Forest

Project/Activity Name **Colorado River Cutthroat Inventory.** This was an effort to survey streams for CRCT. The effort was financed by NFIF. No partners were involved.

Project/Activity Name **Battlement Reservoir Improvement.** This effort was associated with improvements to Battlement Resource which contributed a benefit to CRCT. The effort involved 2 partners.

Project/Activity Name **Oak Ridge CRMP.** This Cooperative Resource Management Plan was associated with improving management associated with an allotment that was influencing a CRCT population. The effort included plan development and monitoring. Three partners were involved.

FY 1999 Cutthroat Conservation Effort Region Three
Activity Narratives

Carson National Forest

Project/Activity Name **Rio Grande Cutthroat Barrer Inventory and Assessment.** A total of 23 Rio Grande cutthroat streams on the Carson and Santa Fe National Forest were surveyed during summer of 1999 to determine the nature of barriers that might be providing protection for Rio Grande cutthroat trout. Barriers were characterized as natural (e.g. rock, log, or debris jam) or man-made (e.g. culverts, dams, diversions, etc.). Attributes measured at barriers were: Depth of jump and catch pool, height of barrier, horizontal distance from jump to catch pool, stability of barrier, species composition above and below barrier. UTM coordinates were generated using a hand held GPS unit. Coordinated effort with FS Research, Rocky Mountain Station (John Rinne).

Project/Activity Name: **Middle Ponil Creek Fish Migration Barrier**. This project involved the analysis, design and construction of a gabion basket fish passage migration barrier to prevent the upstream movement of exotic trout into Rio Grande cutthroat trout habitat. A complete restoration is planned above the barrier. The project was financed primarily with Directors Funds, along with New Mexico Trout and Sangre De Cristo Flyfishers partnerships.

Project/Activity Name: El Rito Creek Fish Migration Barrier. This project involved the analysis, design and construction of an aluminum drop structure/gabion basket fish passage migration barrier to prevent the upstream movement of exotic trout into Rio Grande cutthroat trout habitat. A pure population exists above the barrier. The project was financed with NFIF funds.

Project/Activity Name: Comanche Drainage Habitat Enhancement. This project involved road obliteration, drainage and construction of sediment traps in side tributaries to reduce sedimentation in Comanche Creek. Riparian fencing was constructed to protect vegetation and improve bank stability. This project was financed by Directors Funds and partnerships with New Mexico Trout and Sangre De Cristo Flyfishers.

Project/Activity Name: Santa Barbara Drainage Barrier Improvement and Habitat Enhancement. This project, located in the Pecos Wilderness, involved the improvement of two natural fish migration barriers with large boulders and the mechanical removal of exotic trout from three forks within the drainage. This project was accomplished with NFIF/NFTE funds and partnerships with New Mexico Department of Game and Fish and several private individuals.

Project/Activity Name: Tio Grande and Tanques Creeks Barrier Improvement and Habitat Enhancement. This project involved the improvement of one existing treated timber fish migration barrier and the mechanical removal of exotic trout from two streams. This project was financed by NFTE funds and a partnership with New Mexico Department of Game and Fish.

Project/Activity Name: Frijoles Creek Habitat Enhancement. This project involved the removal of exotic trout from a small stream in a drainage. The drainage is planned for a future native fish restoration. It was financed by a combination of NFIF/NFTE funds and partnership with New Mexico Department of Game and Fish.

Project/Activity Name: Population Surveys. Fish population surveys were conducted on Middle Ponil Creek, site of a future Rio Grande cutthroat trout restoration. Surveys were funded with NFIF funds and partnership with New Mexico Department of Game and Fish.

Project/Activity Name: Macroinvertebrate Surveys. Monitoring surveys were conducted in Powderhouse Creek, which was the site of a Rio Grande cutthroat trout restoration. This project was funded by NFIF.

Project/Activity Name: Riparian Habitat Exclosures. This project involves the construction of fenced exclosures to protect riparian vegetation from elk and cattle use and planting willows in some exclosures. This project was financed by Directors Funds, NFIF funds and partnerships with Philmont Scout Ranch, Sangre De Cristo Flyfishers, Albuquerque Wildlife Federation and New Mexico Trout.

Project/Activity Name: Leandro Creek Restoration. This is the second phase of a project that includes the monitoring and restocking of a stream with Rio Grande cutthroat trout that was restored last year. The project was financed with Directors Funds, National Fish and Wildlife Funds and partnered with Vermejo Park and New Mexico Department of Game and Fish.

Project/Activity Name: Comanche Drainage Barrier Feasibility Report. This project is a step within an ongoing long-term partnership project to provide protection and restoration for the Rio Grande cutthroat trout and other native fish on a drainage scale. Inventory work and habitat improvement is ongoing. This report, by a cadre of engineers on detail, assesses the technical feasibility of the major

construction of a fish migration barrier and provides a preliminary design and cost estimate. The site is located at the lowest end of the drainage. It was financed with Directors Funds.

Project/Activity Name: Outyear Project Archeological Clearances. This project provided archeological fieldwork, reports and clearances for seven planned upcoming projects for Rio Grande cutthroat trout habitat protection and enhancement. It was financed with Directors Funds.

Gila National Forest

Project/Activity Name Animas and Cave Creek Rio Grande Cutthroat Trout Restoration Project. This is a multiple phase project that would remove non-native Rainbows and Rio Grande Cutthroat Hybrids and reestablish Rio Grande Cutthroat, Rio Grande Suckers and Rio Grande Chubs. This project started in 1998 with the Forest Service, Ladder Ranch (Ted Turner-s Biodiversity Division [TBU]), and the New Mexico Department of Game and Fish (NMG&F). In 1998 and 1999, the Ladder Ranch hired a Fisheries Biologist to determine the species of fish and to evaluate the habitat in this drainage that starts on the National Forest and runs onto the Ladder Ranch. In 1999, the District started NEPA for the renovation of these creeks and the reestablishment of a native fish assemblage. Also in 1999, the Forest and the Ranch went into the upper most reach on the Animas, above a natural fish barrier, to collect trout so that the NMG&F could genetically test these fish which morphologically look like Rio Grande Cutthroat Trout. Since the initiation of this project, the National Fish and Wildlife Foundation, National Resource Conservation Service (NRCS), and the U.S. Fish and Wildlife Service (USFWS) have come on board as partners that would contribute funding to the renovation of this creek, which is planned for 2000 and 2001.

Lincoln National Forest

Project/Activity Name: **Sacramento River Riparian Plantings.** One mile of the Sacramento River, which is currently non-occupied, historical Rio Grande Cutthroat Trout habitat, was planted with willow cuttings to help improve trout habitat and re-establish woody riparian vegetation. The willow plantings were conducted within an existing fish & wildlife Riparian Exclosure. This project was performed in partnership with the New Mexico Game and Fish Department and funded with Sikes Act funds and Inland Fish Funds (NFIF). The Sacramento river is located on the Sacramento Ranger District.

Project/Activity Name: Agua Chiquita Fish Structures. Fish habitat structures were installed along one mile of Agua Chiquita Creek in order to provide more fish habitat diversity. Agua Chiquita is currently a non-occupied, historical Rio Grande Cutthroat Trout stream on the Sacramento Ranger District. The fish structures were funded with Sikes Act and NFIF funds, and performed in partnership with the New Mexico Game & Fish Department

Project/Activity Name: Upper Sacramento Riparian Enhancement. This project consisted of reconstructing a riparian exlosure along one mile of the Upper Sacramento River. The Upper Sacramento River is considered historical Rio Grande Cutthroat Trout habitat. However, there are no Rio

Grande Cotthroat Trout in the Sacramento River at this time. This project was completed in partnership with the New Mexico Game and Fish Department and funded with Sikes Act funds and Inland Fish Funds (NFIF).

Project/Activity Name: Lincoln National Forest Rio Grande Cutthroat Trout Strategy, Fiscal Year 2000. The Lincoln National Forest has developed a strategy for conducting priority Rio Grande Cutthroat Trout work in Fiscal Year 2000. The 2000 strategy is the first year of a multiyear effort to bring back the Rio Grande Cutthroat Trout (RGCT) to the Smokey Bear Ranger District of the Lincoln National Forest. The 2000 Strategy calls for; 1) establishing partnerships and support for RGCT re-introduction efforts. The 2000 Strategy has currently identified 9 partners, including our most recent partner B Eastern New Mexico University, Ruidoso Branch. 2) Collecting inventory and baseline habitat data on priority stream systems with the potential to support RGCT. 29.0 miles of stream on the Smokey Bear Ranger District have been identified as priority 1 streams in the 2000 Strategy. Total funding for the 2000 strategy has been estimated at $53,350. Of this amount 50% has already been pledged by our 9 partners as contributed goods and labor.

Santa Fe National Forest

Project/Activity Name: Rio Cebolla RGCT monitoring and AMP implementation. This project involves monitoring of a recently established Rio Grande cut-throat trout population in the upper Rio Cebolla, Santa Fe NF. This project also greatly reduces the amount of cattle grazing along the Rio Cebolla by installing fences and restricting spring grazing to less then five days and fall grazing to less than two weeks. Partners in this project include the Cebolla/San Antonio Grazing Permittees, the New Mexico Department of Game and Fish, and the National Fish and Wildlife Foundation (Bring Back the Natives [BBN]). There are future plans to extend this Rio Grande cut-throat population in cooperation with Trout Unlimited (Embrace a Stream).

Project/Activity Name: **American and Palomas Creek Analysis**. This project surveyed American and Palomas Creeks on the Santa Fe NF. In cooperation with the New Mexico Department of Game and Fish, brown trout were removed and Rio Grande cut-throat trout were inventoried and returned. This project also inititated planning for barrier installations.

Project/Activity Name: San Pedro Parks Monitoring and Range-rider. This is a continuing project to monitor riparian condition, the status of Arizona willow (a sensitive plant), and enhance cattle distribution in the San Pedro Parks, Santa Fe NF. This project involves: (1) the installation of several exclosures to allow Arizona willows to become re-established (later exclosures are removed); (2) weekly monitoring of riparian conditions; and (3) daily/weekly cattle herding. This is a cooperative project between the San Pedro Parks Grazing Association and the Santa Fe NF.

FY 1999 Cutthroat Conservation Effort Region Four
Activity Narratives

Regional Workshop

Project/Activity Name **Cutthroat Conservation and Restoration Workshop** This workshop brought together state, tribes and federal agencies involved in Bonneville and Colorado cutthroat conservation. Specific topics included techniques associated with viability and risk assessments, strategies for protection and restoration, habitat requirements and watershed assessement. A major portion of the workshop centered around the utility and the hands on use of the BAYVam vability model. At least 50 participants attended.

Boise National Forest

Project /Activity Name: Bear Valley Creek Watershed Westslope Cutthroat Distribution Surveys and Report. The primary goal of this project was to obtain survey data on the distribution and relative abundance of westlope cutthroat trout in the Bear Valley Creek Watershed. From mid July to mid September of 1999 a total of 44 stations were surveyed, the data was analyzed and reported in *The Bear Valley Drainage Westslope Cutthroat Report 1999.* Information from this survey and report can be used by the State of Idaho Southwest Basin Native Fish Watershed Advisory Group to complete a problem assessment and recovery plan westslope cutthroat trout in the Bear Valley Creek Watershed.

Bridger Teton National Forest

Project/Activity Name: Finespotted Snake River Cutthroat Trout and Yellowstone Cutthroat Trout Subspecies Distribution Mapping. This project will document the geographic distributions of finespotted Snake River cutthroat trout (*Oncorhynchus clarki* ssp.) and Yellowstone cutthroat trout (*O. clarki bouvieri*) in the Snake River headwaters of Wyoming. To date, comprehensive sampling has not been completed throughout the upper Snake River basin. 1999 was the second of a five year survey. Surveys were completed in the remaining 35% of Gros Ventre River subbasin, approximately 10% of the Greys River subbasin, and one watershed in the Salt River subbasin. Sixty-five streams were inventoried, with 235 km of survey completed by electrofishing, and 12 km of survey completed by hook-and-line (total 247 km). Snake River cutthroat trout (SRC) were observed in >80% of

streams surveyed. Probable Yellowstone cutthroat trout (YSC) were observed in approximately 10%, and apparent SRCxYSC hybrids in remaining 10% of streams surveyed. Brook trout were the only introduced game fish observed. They were captured in 8 streams, which account for 14% (35 km) of stream length surveyed. In cooperation with the Wyoming Game and Fish Department, fin clips were collected from SRC and YSC, and archived for genetic analysis. Project/Activity Name: Bonneville Cutthroat Stream Inventory. Completed 30 miles of R1/R4 stream inventory on the Central Bear River Sub basin streams occupied by Bonneville cutthroat trout. This inventory was design to proceed completion of a conservation assessment and strategy scheduled for development in FY2000.

Caribou National Forest

Project/Activity Name Diamond Creek Range Improvement Project. Brush windrows were placed along the banks of Diamond Creek, a tributary to the Blackfoot River, to exclude cattle trampling. Gaps were maintained to allow crosing and watering.

Project/Activity Name Bear Creek Fencing Project. Bear Creek, a tributary to Diamond Creek within the Blackfoot River watershed, has been impacted by past range use. This is reflected in the channelization and down-cutting in the lower stream reach. The project fenced the lowere reach of Diamond Creek, excluding cattle use.

Project/Activity Name Big Holes Trail Improvements. Trails in the Big Hole Mountains (watersheds draining into Henry=s Fork and South Fork Snake Rivers) are being impacted by frequent motorized recreational vehicle use. Erosion was controlled through improving trail drainage and stream crossings.

Project/Activity Name Upper Thomas Fork Conservation Agreement Monitoring. A conservation agreement between the Montpelier Cattleman=s Association and several agencies (including Forest Service) has been in place for five years. During the summer of 1999, monitoring was accomplished by the Cattleman=s Association, Idaho Department of Fish and Game, and USDA Forest Service. In addition, range mprovements, including fencing, were implemented.

Fishlake National Forest

Project/Activity Name: **North Fork of North Creek Spot Renovation Treatment.** Population monitoring in the summer of 1999 of BCT recovery of North Fork of North Creek following renovation treatment of the drainage approximately 8 years ago found several rainbow trout in the very lowest portion of this creek just above the fish barrier. As a precaution to prevent hybridizaiton of this population the bottom one mile of creek was spot treated with rotenone. This was a cooperative project with the Utah DWR who conducted the actual treatment.

Project/Activity Name: Manning Creek Aquatic Macroinvertebrate Monitoring.
Aquatic macroinvertebrate monitoring was conducted at 4 stations along 9 miles of Manning Creek to monitor and document recovery of aquatic macroinvertebrates following renovation treatments in 1995 and 1996. Samples were sent to a laboratory for analysis, and results will be compared with the 1995 pre-treatment samples and 1997 one year post-treatment samples. This is a cooperative project with the Utah DWR.

Project/Activity Name: **UM Creek CRCT Whirling Disease Study**. Project is a multi-year study being conducted by the Utah DWR in cooperation with the Fishlake N.F. In FY1999 stream habitat was inventoried using the Binns methodology. The Fishlake N.F. also conducted water quality, macroinvertebrate, and riparian monitoring at two additional stations. Fish populations of CRCT in the headwaters and sterile hybrid tiger trout were also monitored. Work conduced in FY99 provided baseline conditions and prediction of fisheries potential prior to the introduction of 2000 CRCT into the mainstem of this creek in spring 2000. Fish populations will then be monitored for 5 years. Study objectives are to guage the ability of CRCT to reestablish in a stream infected with whirling disease and evaluate the ability of CRCT to withstand competition from the sterile Tiger trout which are stocked to satisfy the recreational fishing demand.

Project/Activity Name: Sand Creek Population Monitoring. Population levels of CRCT in about one mile of Sand Creek was monitored following a summer storm flood event. Monitoring indicated that much of the occupied habitat had been scoured by the flood event and CRCT reduced to very low levels. This monitoring indicates Sand Creek may be marginal for supporting CRCT, but CRCT will probably be reintroduced to some additional reaches of this creek where they may be better able to survive flood events when excess brood stock becomes available. This was a cooperative porject with the Utah DWR.

Sawtooth National Forest

Project/Activity Name: Assessment of On-Going Actions. Assessment of 201 ongoing actions and 8 proposed actions in three Asubpopulation@ assessments at the Amay effect@ threshold for westslope cutthroat trout, in anticipation of ESA listing. Management consistency and/or necessary changes in regards to westslope cutthroat protection and conservation were evaluated.

Project/Activity Name: Fisher Creek Trail Reroute. Reroute to a upland ridge of 1.5 miles of a popular mountain bike trail previously aligned within the headwater tributary of Pigtail Creek, a stronghold of westslope cutthroat.

Project/Activity Name: Pass Creek Ford Closure. Closure and rehabilitation of a pioneered and persisting OHV ford through Fisher Creek, occupied habitat of westslope cutthroat.

Project/Activity Name: Trap Creek Diversion Obliteration. Closure and rehabilitation of a abandoned, but persisting irrigation diversion from Trap Creek, high quality westslope cutthroat habitat currently overwhelmed by eastern brook trout.

Project/Activity Name: Fish Habitat Surveys. Fish habitat inventories, including snorkeling species presence and density assessments, at the habitat unit scale were completed on 14 miles of stream in three drainages. Fish species presence reconnaissance surveys completed on 16 miles in 4 drainages.

Project/Activity Name: Good Hope Mine Closure. Closure and rehabilitation of an abandoned mine and associated access roads at the head of Frenchman Creek, historically high quality westslope cutthroat habitat currently overwhelmed by sediment and eastern brook trout.

Project/Activity Name: Rupert Mine Closure. Closure and rehabilitation of an abandoned mine and associated access roads at the head of Fourth of July Creek, historically high quality westslope cutthroat habitat currently overwhelmed by sediment and eastern brook trout.

Project/Activity Name: Road 206 Closure. Closure, obliteration, and rehabilitation, of 1/8 mile of Road 206, including removal of 2,800 cubic yards of fill, through the wetland/floodplain of Alturas Lake Creek, historic habitat for westslope cutthroat trout. Partner B Idaho Transportation Department.

Project/Activity Name: Stanley Lake Creek Fish Screen. Installation of a portable, rotating drum, fish screen on the Stanley Lake Creek 1 diversion, historic migratory habitat of westslope cutthroat trout. Partner B Idaho Department of Fish and Game.

Targhee National Forest

Project/Activity Name: Golden Lake/Thurmon Creek Nonnative Species Conversion/Restoration Project. Caribou-Targhee Forest Fisheries Biologists worked directly with Idaho Fish & Game, Harriman State Park, and Henry-s Fork Foundation Biologists to eradicate nonnative salmonids in Golden Lake and its 3 inlet streams within Harriman State Park and the surrounding

Forest Lands. Barriers to upstream migration were established downstream of the lake and antimycin was applied in the lake and its inlets. Effectiveness monitoring will occur to determine the need for an additional treatment prior to reintroducing adfluvial and resident life history patterns of Yellowstone cutthroat trout.

Project/Activity Name: Yellowstone and Bonneville Cutthroat Trout Distribution Surveys Distribution surveys for Yellowstone and Bonneville cutthroat trout continued on the Caribou-Targhee National Forest. In 1999, 20 streams were surveyed using a standard distribution protocol developed by the Forest. Most of these streams were tributaries to the South Fork Snake River. One of these streams was a tributary to the Bear River system. In addition, Rainey Creek, a major cutthroat trout spawning/rearing tributary to the South Fork was surveyed using the R1/R4 watershed survey protocol. Partners in these surveys include Idaho Department Fish & Game and Bureau of Reclamation.

Project/Activity Name: Tygee Fish Passage Project Fish passage was restored in Tygee Creek, a tributary to the Henry=s Fork River. This stream has a genetically pure resident population of Yellowstone cutthroat trout. A perched culvert was a barrier to upstream migrating fish. This culvert was replaced with a concrete conduit. The conduit was pre-fit with roughness weirs to catch bedload, simulating a natural stream bed.

Wasatch B Cache National Forest

Project/Activity Name Bonneville Cutthroat Meta-population Surveys This project consisted of intensive surveying of the Logan River drainage to determine spawning distribution. The Chalk Creek drainage was also surveyed to determine cuttrhroat distributions. Additional genetic testing will be accomplished. This was a partnership with Utah Division of Wildlife Resources.

Project/Activity Name Temple Fork Road Relocation The project involved the relocation of a major section of road which was directly adjacent to the Temple Fork of the Logan River. Relocation of the road was done to provide protection of cutthroat spawning and other fish species. The project was a forest priority for use of 10% Road Funds.

FY 1999 Cutthroat Conservation Effort Region Five Activity Narratives

Inyo National Forest

Project/Activity Name: O=Harrel Creek Habitat Improvement and Protection, Inyo NF. An exclosure was extended along the stream to protect the stream channel and aquatic habitat from possible disturbance and degradation by livestock use. Pool habitat was created and improved by the construction of 25 log-drop sill structures. The project was financed with NFIF, NFTE, and NFRG funds. The partnership contributions included funding and labor from Trout Unlimited, California Dept. of Corrections, and California Dept. of Forestry.

Project/Activity Name: Cottonwood Creek Habitat Inventory and EA Preparation, Inyo NF. The habitat along two miles of Cottonwood Creek was surveyed and analyzed. An Ea ws

prepared for the Cottonwood-Tres Plumas Grazing Allotment. This EA will address the livestock grazing strategy that will protect the riparian habitat within the allotment; 90% of the allotment has the potential to be rested for a 10 year period. The project was financed by NFIF and NFTE funds and partnership funds and labor by the White Moutain Research Station and U.S. Fish and Wildlife Service.

Sierra National Forest

Project/Activity Name: WF Portuguese Creek Monitoring, Sierra NF. Annual monitoring was completed to meet the requirements of the USFWS Biological Opinion, and to collect annual data for long-term management of the stream. The California Dept. of Fish and Game was a partner in the collection of the information.

Project/Activity Name: Cow Creek Monitoring, Sierra NF. Population surveys were completed with a the Californenia Dept. of Fish and Game. Annual monitoring was completed for the USFWS Biological Opinion, and to collect annual data for long-term management.

Project/Activity Name: Sharktooth Creek Stream Condition Inventory, Sierra NF. A stream condition inventory (SCI) reach was established and the SCI data collected. The project was financed with NFTE funds through the Regions Fisheries Habitat Relationships (FHR) program and with a partnership with California Dept. of Fish and Game.

Stanislaus National Forest

Project/Activity Name: Pacific Creek Trail Reconstruction, Stanislaus NF. The project reconstructed and rerouted a trail and OHV road that was causing erosion and sedimantation into the adjacent stream. The trail and road were brought into compliance with Forest Service standards. A section of streambank was stabilized to reduce erosion and sedimentation. An interpretive display was designed, explaining the resources needs and protection measures. The project was financed with NFTE funds and contriutions in funding and labor from the partners of the project. The partners on this project included the National Forest Foundation, California Conservation Corps., and Napa Valley College.

Tahoe National Forest

Project/Activity Name: Austin Creek Riparian Fence, Tahoe NF. The riparian fencing was planned and completed to protect the stream from water drafting, livestock use, and vehicle access. The fence and boulders will protect one mile of stream and riparian vegetation from further degradation. It will allow the ongoing stream and streambank recovery to continue at the desired rate. The project was completed with financing from NFTE funds and partner contributions. The aprtners included the Gold County Fly Fishers, Nevada Union High, and Bear River High School.

Lake Tahoe Basin Management Unit

Porject/Activity Name: Upper Truckee River Non-Native Trout Removal and Monitoring, LTBMU. Four miles of the Upper Truckee River was electrofished to remove brook trout from this isolated headwaters of the river. The project was financed with NFTE funds and labor contributions from Trout Unlimited and California Dept. of Fish and Game. Additionally, a reach of the Upper Truckee River was used for the development and testing of a stream channel colonizing plant protocol. This protocol will monitor the disturbance and attainment of desired conditions for streambank vegetation. The project was financed with NFIF and NFRG funds.

FY 1999 Cutthroat Conservation Effort Region Six

Activity Narratives

Umatilla National Forest

Project/Activity Name: <u>1999 Westslope Cutthroat/Rainbow Trout Genetic Analysis on the Umatilla N.F.</u> Westslope cutthroat trout are thought to interbreed with rainbow trout when the rainbow population is introduced rather than co-evolved. Non-native hatchery stocks of cutthroat trout also

have been introduced in eastern Oregon and Washington and may have altered the genetic composition of native westslope populations. The project work completed in FY99 was part of a multi-year interagency effort to characterize the genetic integrity of our westslope cutthroat trout populations in eastern Oregon and Washington that are thought to be pure. Necessary laboratory analysis completed at the University of Montana. This important project will provide information to help identify our highest priority westslope trout populations for future conservation and restoration work. This work is coordinated with the Umatilla NF and PNW La Grande.

Wenatchee National Forest

Project/Activity Name: 1999 Westslope Cutthroat/Rainbow Trout Genetic Analysis on the Wenatchee N.F. Westslope cutthroat trout are thought to interbreed with rainbow trout when the rainbow population is introduced rather than co-evolved. Non-native hatchery stocks of cutthroat trout also have been introduced in eastern Oregon and Washington and may have altered the genetic composition of native westslope populations. The project work completed in FY99 was part of a multi-year interagency effort to characterize the genetic integrity of our westslope cutthroat trout populations in eastern Oregon and Washington that are thought to be pure. Necessary laboratory analysis completed at the University of Montana. This important project will provide information to help identify our highest priority westslope trout populations for future conservation and restoration work. This work is coordinated with the Umatilla NF and PNW La Grande.

Project/Activity Name: 1997 Westslope Cutthroat/Rainbow Trout Genetic Analysis on the Wenatchee NF This project was a precursor to the 1999 project above. The objective was to determine if westslope and rainbow/redband populations were pure, hybrids a combination. The USFWS Mid-Columbia Fisheries Resource Office was a partner, with lab analysis performed by the World Salmonid Institute at Colorado State University. While introgressed populations were common there was evidence that pure populations of both westslope cutthroat and redband, and apparent zones of (possibly natural) redband x westslope populations persisted in many areas. This work le to the more intensive sampling in 1999 (above).

Project/Activity Name: Masters Thesis B 1999 Habitat preserences of rainbow and westslope cutthroat within designated streams on the Wenatchee National Forest.
Primary objective of this research is to establish a greater understanding of the habitat preferences of rainbow and westslope cutthroat trout within designated streams on the Wenatchee National Forest. Stream reaches dominated by rainbow, the transition zones with both species, and the stream reaches dominated by cutthroat are being investigated to determine which habitat parameters determine the distribution of the two

species. Project is coordinated with genetic projects (above) and distribution project (below). Thesis targeted for completion in 2000.

Project/Activity Name; <u>Distrubution of Westslope Cutthroat Trout and Redband/Rainbow On the Wenatchee National Forest.</u> This was a concentrated effort using snorkel surveys to establish the distribution of westslope cutthroat trout, redband/rainbow trout areas of overlap and hybridization on the Forest. This work is coordinated with the genetic projects and Masters Thesis described above. Work will continue 2000.

Colville National Forest

Project/Activity Name <u>Westslope Cutthroat/Rainbow Trout Genetic Analysis on the Colville N.F.</u> Westslope cutthroat trout interbreed with introduced coastal rainbow or coastal rainbow/interior redband trout hybrids. Non-native hatchery stocks of cutthroat trout (Yellowstone) also have been introduced in eastern Washington and may have altered the genetic composition of native westslope populations. The project work completed in FY99 was part of a multi-year solo effort to characterize the genetic integrity of our westslope cutthroat and interior redband trout populations in eastern Washington that are thought to be pure. Our primary cooperator is Washington Trout with necessary laboratory analysis completed at the University of Montana. This important project will provide information to help identify our highest priority westslope trout populations for future conservation and restoration work.

Project/Activity Name <u>East Branch Le Clerc Road Relocation on the Colville N.F.</u>
Le Clerc Creek watershed is occupied by westslope cutthroat trout throughout its area. Bull trout juveniles have been observed, making this watershed the only known source of successful bull trout reproduction on the forest. The westslope cutthroat trout populations are sparse in the lowest portions of the East Branch of the watershed. This is due to the degraded condition of the spawning and rearing habitat on these reaches. The project work included relocating approximately 2.25 miles of county road out of the riparian area of the East Branch of Le Clerc Creek and onto higher ground out of the riparian area. The relocation was completed in FY99 and is part of a multi-year project which includes closure/obliteration/restoration of the road segment that has been bypassed. Our primary cooperators were Pend Oreille County and the Stimson Lumber Company. This project when completed will have restored 2.25 miles of riparian and stream habitat and substantially reduced a constant source of sediment introduction. An increase in bull and westslope cutthroat trout survival and utilization of habitat is expected as a result.

Project/Activity Name **Middle Branch Le Clerc Road Reconstruction on the Colville N.F.** Le Clerc Creek watershed is occupied by westslope cutthroat trout throughout its area. Bull trout juveniles have been observed, making this watershed the only known source of successful bull trout reproduction on the forest. The westslope cutthroat trout populations are sparse throughout the Middle Branch. This is due to the degraded condition of the spawning and rearing habitat on these reaches. The project work included the resurfacing of 2.5 miles of native surface road with a large size aggregate, armoring isolated areas where road fillslope is the streambank and the construction of sediment traps above and below drainage structures. The project was completed in FY99 and will be monitored in FY00 for effectiveness. Our primary cooperator was Stimson Lumber Company who are responsible for 20% of the maintenance of this cost share road. This project is expected to substantially reduce a constant source of sediment introduction. An increase in bull and westslope cutthroat trout survival and utilization of habitat is expected as a result

Project/Activity Name **Le Clerc Creek Riparian Fencing** Le Clerc Creek watershed is occupied by westslope cutthroat trout throughout its area. Bull trout juveniles have been observed, making this watershed the only known source of successful bull trout reproduction on the forest. The westslope cutthroat trout populations are sparse throughout the Middle Branch and the lowest portion of the East Branch. This is due to the degraded condition of the spawning and rearing habitat on these reaches. The project work included the fencing of 6 miles of riparina habitat that has been historically overutilized by livestock. The project was completed in FY99 and will be monitored in FY00 for effectiveness. This project is expected to substantially reduce a constant source of sediment introduction and restore the function of the riparian vegetation to provide instream wood, detritus, sediment filtering, streambank stability and shade . An increase in bull and westslope cutthroat trout survival and utilization of habitat is expected as a result.

Attachment B

Sub-species	Region	Forest	Project Name	Acres	Miles	Total Cost	% NFIF	% NFTE	% Directors Fund	% Nat'l Foundations	% Other EBLIs	% Partner Contributions	# Partners
	Region 1												
WSCT	1	2	Westslope Cutthroat Habitat Protection Through Land-Use Coordination Beaverhead-Deerlodge NF		50	45,000					100		
WSCT	1	2	Riparian Habitat Improvement Projects Implemented Through Partnerships		2	5,000	60	20				20	1
WSCT	1	2	Westslope Cutthroat Trout Distribution Surveys on the Beaverhead-Deerlodge NF		44	17,500	80	20					
WCT	1	B-D	MF Little Sheep Cr Stream Rehab.		1	6,500			100				
WCT	1	B-D	Tepee Cr. Headcut Stabilization	2		2,000			100				
WCT	1	B-D	French Cr. Bank Stabilization		0.5	6,711		100					
WCT	1	2	Brays Canyon		2	304					85	15	1
WCT	1	2	Bear Creek		3	224					78	22	1
WCT	1	2	Cottonwood		5	336					78	22	1
WCT	1	2	Delano		1	328					55	45	1

WCT	1	2	Deadman		8	760					60	40	1
WCT	1	2	Dyce		3	592					35	65	1
WCT	1	2	Farlin		0.5	912					55	45	1
WCT	1	2	Greenhorn		6	1312					85	15	1
WCT	1	2	Harrison Canyon		6	608					85	15	1
WCT	1	2	Matsingale		2	304					85	15	1
WCT	1	2	Moose		1	304					85	15	1
WCT	1	2	Rock		2.5	288					78	22	1
WCT	1	2	Sawmill		5	288					78	22	1
WCT	1	2	Simpson		1.8	144					78	22	1
WCT	1	2	Tendoy		3.5	912					85	15	1
WCT	1	2	Trail		1.5	488					55	45	1
WCT	1	2	Bailey		1	304					85	15	1

WCT	1	2	Buffalo		1	656					85	15	1
WCT	1	2	Westslope Cooperative Biologist	NA	NA	56,500		8			23	69	1
YCT	1	8	Dryhead Creek YCT Population Expansion -- Invertebrate analysis		14	$2,000			80			20	1
YCT	1	8	Dryhead Creek YCT Conservation Plan		14	$2,700			90			10	1
YCT	1	8	Bad Canyon YCT Population Enhancement		5	$62,000	40		8			52	2
YCT	1	8	Bad Canyon YCT Population Conservation Plan		5	$8,000			50			50	2
YCT	1	8	Cutthroat Genetic Analysis		50	$4,000	50					50	1
WSCT	1	10	Paola Fish Passage		4	30,000	5			45		95	3
WSCT	1	10	Big Cr. LWD Additions		6	7,000	40					60	1
WSCT	1	10	Forest wide population and habitat monitoring		75	30,000	50	5				45	1
WSCT	1	10	Paint Emery Stewardship project		20	20,00	10				90		0
WSCT	1	10	Good Creek assessment and recovery plan	72,000	73	5,500	50	25				25	1

WSCT	1	10	Sylvia Lake boat launch rehabilitation	23		4,500	100						0
WSCT	1	10	Porcupine and North Fork Lost Creek culvert projects		2	4,600	75	25					0
WSCT	1	10	Forest wide habitat protection through land use coordination			46,000	5				95		0
WSCT	1	11	Cache Creek Westslope Cutthroat Trout Population and Habitat Protection Project		7	25,000	60				20	20	5
YCT	1	11	North Fork Willow Creek Riparian Restoration and Protection Project		2	10,000	20		50		20	10	3
YCT	1	11	Brackett Creek Yellowstone Cutthroat habitat Restoration Project		1	5,000	60					40	3
WSCT	1	11	Cabin Creek survey and barrier feasibility Study		10	4,000			75			25	2
YCT	1	11	West Fork Mill Creek Habitat Enhancement		4	12,000			83			17	2
YCT	1	11	Mill Fork Mission Creek Bank Stabilization Project		2	1000	100						
YCT	1	11	Mill Creek and North Fork Willow Creek Conservation Management Plans		22	7,000	90					10	2
YCT	1	11	Stream Temperature Monitoring		50	2,000	100						
YCT	1	11	Upper Shields Watershed Working Group		75	153,000	0.02					99.98	6
YCT	1	11	Land Use Coordination		30	15,000							

WSCT	1	11	Land Use Coordination		30	15,000					100		
YCT	1	11	Genetic analysis study		100	12,000	50					50	2
WSCT	1	14	Stahl Creek Channel Restoration		17	4,000					NFSI-60% 10% Fund-40%		
WSCT	1	14	Otter Creek Channel Retoration		7	1,000					NFSI-60% 10% Fund-40%		
WSCT	1	14	Swamp PA Road Improvement Work		37	46,000					10% Fund-100%		
WSCT	1	14	Trego PA Road Improvement Work		10	3,000					10% Fund-100%		
WSCT	1	14	Barron Creek		0.1	5,000	40				100	60	1
WSCT	1	14	Land Use Coordination		150	20,000					25		
WSCT	1	14	Genetic Sampling		25	10,000	65	10					
WSCT	1	14	Road Decommissioning		10	54,265					100		
WSCT	1	14	BMP Implementation		30	188,000					50	50	1
WSCT	1	14	District 10% Projects	1	2	75,000					50	50	

WSCT	1	14	Fish Habitat Surveys		1	2,000	50				50		
WSCT	1	14	Dodge Creek Genetics Analysis		1	1,250	100						
WSCT	1	14	Berray Cr. Restoration		0.3	100,000	1	1			98	0	0
WSCT	1	14	Cedar Gulch Road Obliteration		2.25	5,000							
WSCT	1	14	Marten Cr. Surface Repair		0.5	1500					100		
WSCT	1	14	Beaver Cr. Road Decommissioning		10	25,000					100		
	Region 2												
YCT	2	2	Yellowstone Cutthroat Trout and Fisheries Inventory of the Little Bighorn River Drainage, Bighorn National Forest, Wyoming		90	50,000		60	30			10	3
CRCT	2	4	FY1999 CRCT Inventories	130	70	25000	100	0	0	0	0	0	0
CRCT	2	MBR (06)	Reference Reach Data for CRCT Streams		3	12,000	50				50% NFSO		
CRCT	2	MBR (06)	Troublesome Creek CRCT Surveys		5	5,000	50				50% NFRV		

RGCT	2	9	Popn Status Assess.		20	30,000		20				80	1
RGCT	2	9	Habitat Recon	150	6	10,000		100					
RGCT	2	9	Land-use Assessments	60	20	15,000					100		
RGCT	2	9	Water Rights			10,000	50				50		
RGCT	2	9	Big Springs Restoration		3	30,000	15		40			45	1
RGCT	2	9	N. Fork Camero Barrier		3	20,000	10		90				
RGCT	2	9	E. Pass Cr. Erosion Control		3	30,000	25		20			55	2
RGCT	2	9	Osier/Cascade Erosion Control		2	5,000	70					30	1
RGCT	2	9	Education			5,000		100					
GBN	2	10	Greenback Status & Trend		25	$35,000	40	40				20	3

CRCT	2	10	Colorado River Status & Trend		25	$25,000	60	20				20	6
CRCT	2	10	Little Vasquez Fish Passage		1	$10,000	10	40				50	5+
CRCT	2	10	South Fork Ranch Creek		5	$5,000	20	30				50	2
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Recovery - Lake Fork Creek Barrier Repair.		6	4000		70	0	0	0	30	1
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Maintainance – Severy Creek Brook trout Removal		0.25	1300		50	0	0	0	50	1
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Maintainance – Severy Creek Expansion of Range.		0.5	1200		25	0	0	50	25	1
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Maintainance – Severy Creek Habitat Inventory.		2	2200		50	0	0	0	50	1
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Maintainance – Severy Creek System Trail #661 Closure		5	5000		8	0	0	92	n/a	0
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Maintainance – Severy Creek Habitat Protection / Land Use Coordination – Pikes Peak EA and Master Plan		5	5000			0	0	100	n/a	0
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Recovery		4	250		100	0	0	0		1

			– Turkey Creek Greenback Cutthroat Trout Reclaimation Project										
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Maintainance – Greenhorn Creek Residual Pool Depth Monitoring		1	600		100	0	0	0	n/a	0
GBCT	2	12	GREENBACK CUTTHROAT TROUT Population Maintainance – Greenhorn Creek Riparian Wetland Restoration	1		500			0	0	100	n/a	0
YCT	2	14	North Fork Shoshone Fisheries Mitigation		1	$50,000	5	5			5	85	3
CRCT	2	15	Colorado River Cutthroat Inventory		15	7,500	100						
CRCT	2	15	Battlement Reservoir Improvement	20		10,000		50				50	2
CRCT	2	15	Oak Ridge CRMP		5	16,000	30	20			50		
	Region 3												
RGCT	3	2 & 10	Rio Grande Cutthroat Barrier Inventory and Assessment	NA	NA	20,000					100		

RGCT	3	2	Middle Ponil Creek Fish Migration Barrier		7	26,000			97			3	2
RGCT	3	2	El Rito Creek Fish Migration Barrier		4	40,000	100						
RGCT	3	2	Comanche Drainage Habitat Enhancement		6	12,500	10		70			20	2
RGCT	3	2	Santa Barbara Drainage Barrier Improvement and Habitat Enhancement		9	13,250	15	35				50	2
RGCT	3	2	Tio Grande/Tanques Creeks Barrier Improvement and Habitat Enhancement		5	7,800		50				50	1
RGCT	3	2	Frijoles Creek Habitat Enhancement		4	5,000	25	30				45	1
RGCT	3	2	Population Surveys		5	1,700	50					50	1
RGCT	3	2	Macroinvertebrate Survey		3	1,000	100						
RGCT	3	2	Riparian Habitat Exclosures	73		19,000	10		45			45	4
RGCT	3	2	Leandro Creek Restoration		4	8,350			40	40		20	2
RGCT	3	2	Comanche Drainage Barrier Feasibility Report	NA	NA	8,000			100				
RGCT	3	2	RGCT Project Archeological Clearances	NA	NA	5,000			100				

RGCT	3	6	Animas and Cave Creeks Rio Grande Cutthroat Trout Project		31	30,000		33				67	3
RGCT	3	8	Sacramento River Riparian Planitngs		1	6,744	50					50	1
RGCT	3	8	Agua Chiquita Fish Structures		1	10,314	50					50	1
RGCT	3	8	Upper Sacramento Riparian Enhancement		1	13,398	10				40	50	1
RGCT	3	8	Development of Lincoln National Forest RGCT Strategy, FY2000		29	2,000	50				50		9
RGCT	3	10	Rio Cebolla RGCT Monitoring and AMP Implementation		7	4,000	25					75	2
RGCT	3	10	American and Palomas Creek Analysis		7	4,000	25					75	1
RGCT	3	10	San Pedro Parks Monitoring and Range rider		10	10,000	10	10			25	45	2
	Region 4												
WSCT	4	2	Bear Valley Watershed Westslope Cutthroat Distribution Surveys and Report		30	10,000	100						1

YCT	4	3	Snake River Finespotted Cutthroat		154	35,000	10	5	60			25	3
BCT	4	3	Central Bear River Inventory		30	20,000	30		70				
BCT	4	8	North Fork North Creek		1	3,500	50					50	1
BCT	4	8	Manning Creek Monitoring		9	1,500	50					50	1
CRCT	4	8	UM Creek Study		18	7,500	25					75	1
CRCT	4	8	Sand Creek Pop. Monitoring		1	500	25					75	1
WSCT	4	14	Assessment of On-Going Actions	n/a	n/a	15,000	35%				65%		
WSCT	4	14	Fisher Creek Trail Reroute.	7	2	3,000					100%		
WSCT	4	14	Pass Creek Ford Closure	1	0.5	500					100%		

WSCT	4	14	Trap Creek Diversion Obliteration	15	0.5	2,000					100%		
WSCT	4	14	Fish Habitat Surveys	n/a	30	8,000	40%				60%		
WSCT	4	14	Good Hope Mine Closure.	4	0.5	3,000					100%		
WSCT	4	14	Rupert Mine Closure.	2	0.2	3,000					100%		
WSCT	4	14	Road 206 Closure	10	0.5	10,000					60%	40%	1
WSCT	4	14	Stanley Lake Creek Fish Screen.	n/a	0.5	30,000					10%	90%	1
YCT	4	15	Golden/Thurmon Restoration	40	8	30,000	7					93	3
YCT/BCT	4	15	YCT/BCT Distribution Survey		100	50,000	60					40	2
YCT	4	15	Tygee Ck Passage Project		5	25,000					100		
BCT	4	19	Meta-Population Surveys		85	45,000	33	33				33	1
BCT	4	19	Temple Fork Road Relocation		4	470,000					96	4	3

BCT & CRCT	4	all	Cutthroat Conservation and Restoration Workshop	NA	NA	20,000			100				
YCT	4	5	Diamond Creek Range Project		2	5,000					100		
YCT	4	5	Bear Creek Fencing Project		2	8,000					100		
YCT	4	5	Big Hole Trail Improvement		10	9,000					50	50	1
BCT	4	5	Upper Thomas Fork CA Monitoring	NA	NA	2,000					50	50	3
	Region 5												
LCT	5	4	O'Harrel Creek	0	2	22,000	12	66	0	0	0	22	3
PCT	5	4	Cottonwood Creek	0	2	12,000	16	16	0	0	33	33	2
LCT	5	15	WF Portuguese Creek	0	1.5	2,000	0	100	0	0	0	0	0
LCT	5	15	Cow Creek	0	1.5	2,000	0	100	0	0	0	0	0
PCT	5	15	Shartooth Creek	0	1.5	12,000	0	66	0	0	0	34	2

LCT	5	16	Pacific Creek	0	2.5	56,333	0	1	0	39	0	59	2
LCT	5	17	Austin Creek	0	1	7,700	0	80	0	0	0	20	3
LCT	5	19	Upper Truckee River	0	4	30,000	0	17	0	0	17	66	2
	Region 6												
WSCT	6	14	Westslope Cutthroat/Rainbow Trout Genetic Analysis on the Umatilla N.F.	0	0	40,300	28	50	0	0	7	15	1
WSCT	6	21	Westslope Cutthroat /Rainbow Trout Genetic Analysis on the Colville N.F.	0	0	37,750	0	13	0	0	0	87	1
WSCT/ BULL TROUT	6	21	East Branch Le Clerc Creek Road Relocation	0	2.25	225,000	0	0	0	0	91	9	2
WSCT/ BULL TROUT	6	21	Middle Branch Le Clerc Road Reconstruction	0	2.5	140,000	0	0	0	0	80	20	1
WSCT/ BULL TROUT	6	21	Le Clerc Riparian Fencing	0	6	22,577	0	100	0	0	0	0	0

WSCT	6	17	Westslope Cutthroat/Rainbow Trout Genetic Analysis on the Wenatchee N.F.			20,000			100				
WSCT	6	17	1997 Westslope Cutthroat/Rainbow Trout Genetic Analysis on the Wenatchee N.F.	0	0	26,000	100						
WSCT	6	17	Cutthroat/rainbow Masters Thesis, Wenatchee NF	0	0	$10,000	100						
WSCT	6	17	Westslope/Redband distribution on the Wenatchee NF			26,600	100`						